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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10:032,878	10/24/2001	Hironobu Tatsumi	70904/56635	1815
21874	7590	01:07/2004	EXAMINER	
EDWARDS & ANGELL, LLP			ERDEM, FAZLI	
P.O. BOX 9169			ART UNIT	
BOSTON, MA 02209			PAPER NUMBER	
			2826	

DATE MAILED: 01/07/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/032,878	TATSUMI, HIRONOBU	
	<b>Examiner</b>	<b>Art Unit</b>	
	Fazli Erdem	2826	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 09 September 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-33 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,5,7-9,13,14,16,19-21 and 28-33 is/are rejected.
- 7) ☒ Claim(s) 2-4,6,10-12,15,17,18 and 22-27 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.  
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)                      4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)                      5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_                      6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Allowable Subject Matter***

1. Claims 2-4, 6, 10-12, 15, 17, 18 and 22-27 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 5, 7-9, 13, 14, 16, 19-21 and 28-33 rejected under 35 U.S.C. 103(a) as being unpatentable over Ge (6,369,867) in view of Moshrefazdeh et al. (6,198,051) further in view of Kaneko (JP 10-260420) further in view of Hirose et al. (6,573,954).

Regarding Claims 1, 5, 7-9, 13, 14, 16, 19-21 and 28-33, Ge discloses a riveted liquid crystal display comprising at least one plastic rivet formed by laser drilling through a pair or plastic plates where a seamless tiled display employs active liquid crystal display and backlight. The active matrix elements of active LCD are mounted on the inside or outside of the front plate or back plate of LCD. A thin front plate and a thin sealing wall are used to reduce the seam width of the tiled LCD. A laser unit is used for a thin LCD sealing. A spacer added adhesive array is deposited between pixels and between front plate and back plate to guarantee the uniformity of liquid crystal cells thickness. A laser riveting is used for making a robust plastic

LCD. A reflective layer is deposited on the sidewall of back plate to reflect the light emitted from the backlight and to reduce the apparent seam width. In the backlight, there can be at least one set of red, green, and blue light source operated at color sequential mode to display a color image without the use of color filters. Ge fails to disclose the electrode with holes and electrode with holes in the specified manner and hole location structure. However, Moshrefzadeh et al. disclose display substrate electrodes with auxiliary metal layers for enhanced conductivity where the required electrode with holes are disclosed. Furthermore, Kaneko discloses a semiconductor device where the required electrode with holes in the specified manner are disclosed. Finally, Hirose et al. disclose a liquid crystal display device and its manufacturing method where the required hole location structure is disclosed.

It would have been obvious to one of having ordinary skill in the art at the time the invention was made to include the required electrode with holes, electrode with holes in the specified manner, and hole location structure in Ge as taught by Moshrefzadeh et al., Kaneko, and Hirose et al. respectively, in order to have a liquid crystal display device with better performance.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Fazli Erdem whose telephone number is (703) 305-3868. The examiner can normally be reached on M - F 8:00 - 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nathan Flynn can be reached on (703) 308-6601. The fax phone numbers for the

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organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 308-7724 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

Starting February 4, 2004, Examiner Fazli Erdem's phone number will be changed to (571) 272-1914 and his SPE Nathan Flynn's phone number will be changed to (571) 272-1915

FE  
December 29, 2003

A handwritten signature in black ink, consisting of several fluid, overlapping strokes.